STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS, AND MINING
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M E M O R A N D U M
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TO: Board of Oil, Gas and Mining

FROM: Mary Ann Wright, Reclamation Biologist

SUBJECT: Executive Summary - ACT/021/005
CF&I Steel Corporation - Comstock, Blowout, Duncan Mine
Iron County, Utah

DATE: April 18, 1980

The Board's concurrence is sought to the Division's decision that it will issue tentative approval to the mining and reclamation plan for the company's open pit iron mining operation near Cedar City, Utah.

The operation is located in Section 1, 2, 3, 25, 29, 30, 31, 34, 35 and 36, Townships 36 and 37 South, Ranges 13 and 14 West. 538 Acres comprises the area affected by the mine and related facilities.

The Division also seeks the Board's concurrence with the amount and form of the reclamation surety. CF&I Steel has prepared the attached estimate for reclamation at this site which, in 1980 dollars, totals $588,951.00 or an average of $2,265.00 per acre. CF&I Steel is requesting a contact for the surety.

I hope that the attached executive summary will provide you with the necessary information.

MAW/te

E X E C U T I V E S U M M A R Y
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CF&I Steel Corporation

Comstock, Blowout, Duncan Mine
ACT/021/005
Iron County, Utah

Location:

The CF&I Iron mining operation lies west of Cedar Valley about 14 miles west of Cedar City, Utah. The proposal as set forth in the company's Mining and Reclamation Plan includes the presently operating Comstock open pit iron mine, re-activation of the Duncan Mine, and utilization of old lean ore dumps from the Blowout pit. The possibility of underground iron mining is mentioned in the plan as a future alternative but is not included in the application for an approved mining and reclamation plan. See the map located in the appendix for the exact location of the mine.

Geology and Soils:

The surface geology of the area of mining operations is a mixture of alluvium, colluvium and intermediate igneous rock. Soils in the general area are classified as in the fine, loamy, mixed, mesic family of Aridic Calcic Argixerolls; and as in the loamy-skeletal, mixed family of Typic Argiborolls. Typically, that which could be referred to as topsoil in the general area of the mine, is found to be 0'-6" in depth.

Hydrology:

Surface hydrology in the area is classified as having permeability lying in the moderately slow category. Runoff is slow to medium and the erosion hazard is slight to moderate. The surface drainage channels that are developed have developed in a dry, subhumid environment and are subjected to periodic scouring from summer storm activity.

Little is known of the subsurface hydrology in the area. It is known that water is encountered at the 6450' level at the Comstock pit and that the company anticipates additional water at depth. In the Duncan pit, which at this point is inactive, flows are varied with season and year. Quantity of flow could be characterized as average at 50 gallons per minute in the Iron Mountain area and 100 gallons per minute in the Comstock pit. It is believed that any water encountered is resultant from perched water tables.

Water is pumped from the Comstock pit to a closed basin drainage and does not flow outside the mining area. After low-level use of the mine discharge water by livestock and wildlife, the water seeps into the alluvium.

Ecology:

The CF&I operation lies on the transition zone between the Pinyon-Juniper and Shadscale Saltbush vegetal types. Most of the mine work area lies within the Pinyon-Juniper type at about 6100 feet in elevation.

Plants representative of the area covered by the mining operation are galleta grass, cheat grass, Indian ricegrass, squirreltail, threeawn, big sageburch, fourwing saltbrush, rabbitbrush, palmer penstemon, halogeton, Russian thistle, Utah juniper, mountain mohogany, cliffrose, serviceberry and pinyon pine.

Much of the area affected is subject to livestock grazing but access is limited in the pit and operations area. Wildlife use by game species is limited to mostly winter use by mule deer and resident chukkar and cottontail rabbits. Nongame wildlife species present and in part using the area are various raptors, ground squirrels, mice, rats, and other rodents.

The area is not known to include any rare or endangered species or habitats. Due to its isolation from prime summer deer range, the area could not be considered as critical deer winter range.

Structures and Facilities:

This area is located in the Pinto Iron Mining District and therefore is amidst the remnants of much in the way of old workings. The proposal includes the active mining work now proceeding in the Comstock pit. In 1969, mining stopped in the Iron Mountain Area which includes the Blowout and Duncan Mines.

The proposal includes finishing the mining of the Duncan pit and the reclamation of lean ore dumps from the Blowout pit and Duncan pit. All waste rock produced in the Iron Mountain Area will be deposited in the mined out Blowout pit.

There are no new proposed facilities for this operation beyond those that exist presently in either existing or abandoned operations.

Mining and Reclamation:

Both the Comstock pit and the Duncan pit are developed on 25 foot lifts on a ½ to 1 slope with a permanent safety bench left every 75 feet, vertically resulting in a 45° overall slope.

Drilling and blasting will be conducted and loading done with shovels of 6-11 cubic yard capacity into haul trucks of 35 to 80 ton capacity. Shot rock is hauled to waste dumps and ore is hauled to a crusher which produces minus 8 inch material which is screened and loaded into railroad cars. Ore is shipped to Pueblo, Colorado. No beneficiation is currently being done at this time and no plans for such a facility are included in the application.

The reclamation objective is to obtain a suitable self sustaining vegetative cover consistant with the post mining land uses of livestock grazing and limited wildlife habitat.

An M-10 commitment has been filed for this operation and the operator requested one variance to Rule M-10(8) in the filing. Rule M-10(8) specifies that no natural drainages will be covered or restricted.

CF&I requests a variance which will permit continued dumping in the same manner as past practices. The Division concurrs with the issuance of such a variance on the basis of a field inspection of the operation.

Due to the lack of large amounts of topsoil, the revegetation philisophy will be to treat waste dump material by using such methods as scarifying, using mulch and fertilizing to develop a suitable plant support medium.

Revegetation testing to try the operator's proposed revegetation practices is committed to by the operator. Testing will be done in cooperation with Southern Utah State College and the Division. Previously developed revegetation pracitces by Utah International in the same area will be utilized in addition to those practices developed in the future.

Impacts:

Due to the pre-existing nature of this operation it is not anticipated that its immediate or long term impacts will be significant.

Surety Estimate:

The company has been asked for its estimate of amount of surety to cover reclamation of the 538 Acres of the area to be disturbed. The final surety proposal will be made at the Board's August meeting.

Application History:

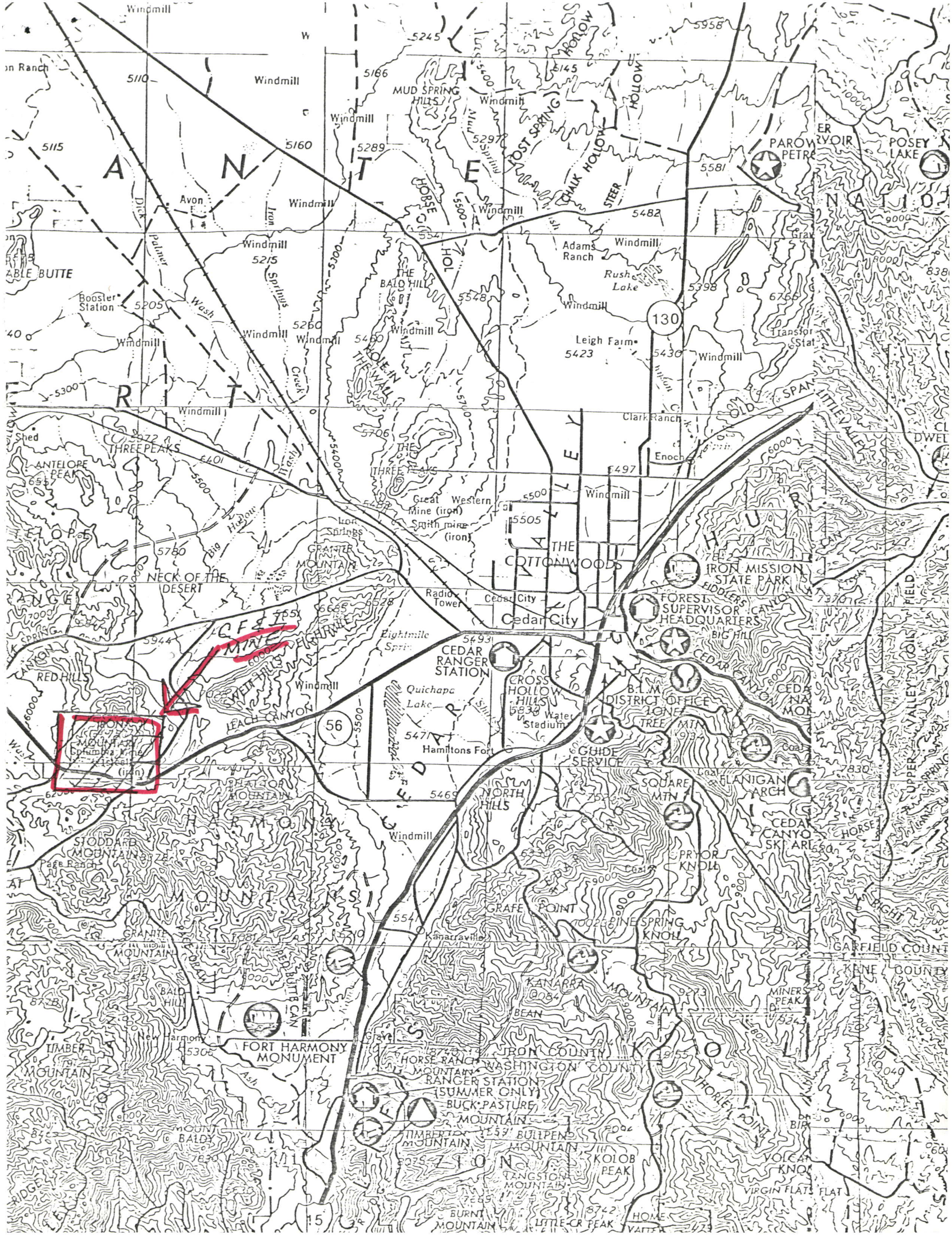
March 1976	Field inspection done in conjunction with Utah International's Iron Springs Iron Mines by Ron Daniels and Jim Carter.
June 1977	Formal application made by CF&I Steel for an approved Notice of Intention to commence mining operations.

DIVISION OF OIL, GAS, AND MINING

BOND ESTIMATE

OPERATOR: CF&I Steel Corporation - via Contract with Utah International, Inc.
MINE NAME: Comstock Mine ACT/021/005
LOCATION: Pinto Iron Mining District
COUNTY: Iron County
DATE: 4-11-80

	Operation	Amount	Rate	Cost
A.	CLEAN-UP			
	1. Removal of structures & equipment.	Cost Paid By	Equipment Sale & Scrap Value	
	2. Removal of trash & debris.	1 - Occurrence	$10,000	$10,000
	3. Leveling of ancillary facilities pads and access roads.	2 men: 2 weeks	160 hrs @ $15	3,600
		1 dozer; 2 weeks	80 hrs @ $78.45	6,276
B.	REGRADING & RECONTOURING			
	1. Earthwork including haulage and grading of spoils, waste and over-burden.	260 Acres	Dozer 5Ac/da @ $78.45/hr	$32,635
	2. Recontouring of highwalls and excavations.	None		
	3. Spreading of soil or surficial materials.	260 Acres	807 CY/Acre $1614/Acre	$419,640
C.	STABILIZATION			
	1. Soil preparation, scarification, fertilization, etc.	260 Acres	$20/Acre	$5,200
	2. Seeding or planting.	260 Acres	$120/Acre	31,200
	3. Construction of terraces, water-bars, etc.	None		
D.	LABOR			
	1. Supervision.	6 Mo.	$3500/Mo	$21,000
	2. Labor exclusive of bulldozer time.	260 Acre	$120/Acre	31,200
E.	SAFETY			
	1. Erection of fences, portal coverings, etc.	4 miles (if required)	$800	$3,200
	2. Removal or neutralization of explosive or hazardous materials.	None		
F.	MONITORING			
	1. Continuing or periodic monitoring, sampling & testing deemed necessary.	5 years	$5,000/Yr	$25,000
				$588,951
G.	OTHER			
		$588,951 ÷ 260 Acres = $2265/Acre		



Windmill
Mud Spring Hills
Lost Spring Hollow
Chalk Hollow
Steer Hollow
Parowan
Posey Lake
Avon
Dick Palmer Wash
Iron Springs
Booster Station
Table Butte
Bald Hill
Hole in the Wall
Adams Ranch
Rush Lake
130
Leigh Farm
Clark Ranch
Enoch
Old Spanish
Little Valley
Three Peaks
Antelope Peak
The Three Peaks
Great Western Mine (iron)
Smith mine (iron)
Iron Springs
Granite Mountain
Neck of the Desert
Big Hollow
The Cottonwoods
Iron Mission State Park
Forest Supervisor Headquarters
Radio Tower
Cedar City
Big Hill
Cedar Canyon
CF&I MINE
Eightmile Spring
Cedar Ranger Station
Quichapa Lake
Cross Hollow Hills
Water Stadium
B.L.M. District Office
Lone Tree Mtn
Red Hills
Leach Canyon
56
Iron Mountain
Columbia mine (iron)
Hamiltons Fort
Guide Service
Flanigan Arch
Square Mtn
Cedar Canyon Ski Area
Pryor Knoll
North Hills
Harmony Mountains
Stoddard Mountain
Page Ranch
Grafe Point
Pine Spring Knoll
Kanarraville
Granite Mountain
Garfield County
Kane County
Kanarra Mountain
Bald Hill
New Harmony
Fort Harmony Monument
Red Butte Can
Miners Peak
Timber Mountain
Iron County
Washington County
Horse Ranch Mountain
Ranger Station (Summer Only)
Buck Pasture Mountain
Timber Top Mountain
Bullpen Mountain
Kolob Peak
Thorley Point
Mount Baldy
Zion
Tangston Mountain
Burnt Mountain
Virgin Flats
Little Cr Peak
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